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DOCKET
09-AFC-10DATE MAY 14 2010RECD. MAY 14 2010

May 14, 2010

Mr. John Kessler
Siting Project Manager
California Energy Commission
1516 Ninth Street
Sacramento, CA 95814

Subject: Rice Solar Energy Project (09-AFC-10)
Mojave Fringe-toed Lizard Habitat Assessment

Dear Mr. Kessler:

Attached please find one hardcopy and one CD of Rice Solar Energy, LLC's Mojave Fringe-toed Lizard Habitat Assessment for the Application for Certification for the Rice Solar Energy Project (09-AFC-10).

If you have any questions about this matter, please contact me at (916) 286-0278 or Sarah Madams at (916) 286-0249.

Sincerely,

CH2M HILL

A handwritten signature in blue ink, appearing to read "Douglas M. Davy".

Douglas M. Davy, Ph.D.
AFC Project Manager

Mojave Fringe-toed Lizard Habitat Assessment

cc: POS List
Project File

Mojave Fringe-toed Lizard (*Uma scoparia*) Habitat Assessment

SolarReserve Rice Solar Energy Project

By Robert Black

May 2010

INTRODUCTION

This report addresses the results of a Mojave fringed-toed lizard (*Uma Scoparia*) (MFTL) habitat assessment of the proposed SolarReserve Rice Solar Energy Project (RSEP) site. Habitat within the project site boundaries and the heliostat (mirror) field was observed to see what, if any, is suitable for the Mojave fringed-toed lizard (MFTL). For this reason, the assessment was divided into two phases. The first phase involved assessing the habitat within the proposed site boundaries and the heliostat field footprint. The second phase involved an assessment of the generator tie-line route.

Methodology

The following methods were used to confirm the possible presence or absence of the MFTL within washes extending downslope and to the south toward the heliostat site from known MFTL habitat in Rice Valley Dunes to the south, through a search for and location of the MFTL's fine aeolian sand habitat and their sign (tracks, etc.).

As an experienced MFTL surveyor, I conducted the habitat assessment with assistance from Ms. Mercy Vaughn of Sundance Biology, Inc., by walking and driving to specific geographical coordinates to assess and analyze the habitat of the (1) project site and heliostat field footprint, (2) buffer zone between the heliostat field and Rice Valley Dunes, and (3) generator tie-line route, over a two-day period. Starting at the heliostat site, coordinates were given for north, south, east and west boundaries. Alluvial fan desert scrub habitat characteristics were observed while driving and walking from the outer boundary to the heliostat field

footprint along the generator tie-line route. Several washes that produced loose sand were checked for sand grain size consistency, sand depth and MFTL tracks and other sign.

Phase 1: Project Boundary

Phase 1 of the habitat assessment involved a quadrat-by-quadrat survey of the project's outer boundary. Waypoints described, located, and photographed below are sites that represent typical location along the heliostat field's outer boundary in each of four quadrants (north, south, east, and west). The waypoint locations are keyed to the site map included as Figure 1 (attached at the end of this report). Waypoint locations are provided in the Universal Transverse Mercator (UTM) grid coordinate system.

Waypoint 1: 11S 702344E 3773140N - The Northern Quadrant of the heliostat site is primarily characterized by alluvial fan desert scrub with a few moderately sized alluvial channels. The drainage channels fade into finer braids. The exposed base substrate within this quadrant is largely a mix of cemented sand or gravel, with loose sand present within the washes. Depth and consistency of this sand, however, is not conducive for MFTL occupancy.



Northern boundary

Facing south

Waypoint 2: 11S 702374E 3770143N - The Southern Quadrant of the heliostat site has a moderate amount of alluvial braiding within its desert scrub makeup. Within these braids there are isolated pocket areas of some finer sand deposits. However, the majority of these braids have silk-cemented sands that are not conducive to MFTL occupancy.

Southern boundary



Facing south

Waypoint 3: 11S 703747E 3771690N - The Eastern Quadrant of the heliostat field is alluvial fan desert scrub, with a few larger alluvial channels extending from the northern quadrant. As they pass through the eastern quadrant they widen, and as they move to the south, they fade into a network of light braids. Within the wider braids in the eastern quadrant, there are some deposits of finer loose sand. However, the majority of these systems are silk-cemented sand that is not conducive for MFTL occupancy.



Facing south



Facing northwest

Waypoint 4: 11S 700926E 3771527N - The Western Quadrant of the heliostat field consists of alluvial fan desert scrub. The northern part of this quadrant has wider alluvial braids that become narrower as they fade into the old airfield. Within these braids, sand depth and consistency is not conducive for MFTL occupancy.



Facing south



Facing North

Outer Boundary Assessment Results

The habitat observed along the outer boundary of the heliostat field is alluvial fan desert scrub with moderate alluvial braiding. The sand within the braids and washes observed was either too compacted or not fine enough to qualify as MFTL habitat. Sand depth, where sand is present, is very shallow throughout these braided networks. There were a few isolated areas within these braids that have finer loose sand; however, these still lacked sufficient fine, loose sand to support MFTL occupancy. No MFTL or their sign was observed while temperatures and times were conducive to their activity.

Phase 2: Buffer Zone Habitat Assessment

Phase 2 of the assessment involved an examination of the buffer zone between the heliostat field and the Rice Valley Dunes to the south. It was conducted to assess how near MFTL habitat is in proximity to the southern boundary of the heliostat site. The MFTL occupies the Rice Valley Dunes to the south of the proposed RSEP heliostat field. Starting from the known MFTL habitat to the southwest, a course was plotted that would lead to an intersection with the center of the southern boundary of the solar energy project's fenceline.

Waypoint 5: 11S 698168E 3770523N - Drop-off point to the southwest of the heliostat field in the stabilized dune community south side of railroad tracks.



Facing southeast



Facing northeast

Waypoint 6: 11S 698237E 3770257N - First confirmation of MFTL in these stabilized sand dunes and sand hummocks at 14:27 hours, with a ground temp of 36C. (below)



Facing east



Facing Northeast

Waypoint 7: 11S 698348E 3769952N - North side of railroad tracks at this location heading east, still within the sand dune community.

Waypoint 8: 11S 698418E 3769933N - Second confirmation of MFTL within stabilized sand dunes and sand hummocks at 14:52, with a ground temp of 39C. (below)



Mojave fringe-toed lizard



stabilized sand dunes and hummocks

Waypoint 9: 11S 698717E 3770015N - Third MFTL confirmed on stabilized sand dune at 15:00, with a ground temp of 38.4 C.

Waypoint 10: 11S 698815E 3770013N - Fourth MFTL confirmed on stabilized sand dune at 15:09, with a ground temp of 38 C.

Waypoint 11: 11S 698856E 3770036N - Fifth MFTL confirmed on stabilized sand dune at 15:12, with a ground temp of 37C.

Waypoint 12: 11S 698963E 3770042N - Sixth and seventh MFTL confirmed on stabilized sand dune at 15:17, with a ground temp of 37C.

The photograph shows stabilized sand dunes and sand hummocks where several MFTL were confirmed.



Facing southeast



Facing northeast

Waypoint 13: 11S 699052E 3770017N - Stabilized sand dune systems heading north and east. From this point Sahara Mustard starts to dominate the vegetation.



Facing southeast



Facing northeast

Waypoint 14: 11S 699071E 3770018N – This location marks the northern edge of the area that has stabilized sand dunes and sand hummocks as I headed northeast toward the southern boundary of the heliostat site.



Facing southeast



Facing north

Waypoint 15: 11S 699104E 3770026N - Bearing east at these coordinates, habitat consists of alluvial fan desert scrub. First Zebra-tail lizard confirmed at 15:25, with a ground temp of 39C.

Waypoint 16: 11S 699182E 3770078N - A few small sand hummocks appear at these coordinates within the alluvial fan desert scrub.

Waypoint 17: 11S 700929E 3770117N - At this point, alluvial fan desert scrub is all that is visible.



Alluvial fan desert scrub (facing northeast)

Waypoint 18: 11S 702374E 3770143N - I arrived at the center of the heliostat field's southern boundary. This location is characterized by desert scrub with few alluvial braids.

Results of the Phase 2 Buffer Zone Assessment

MFTL presence was confirmed in the Rice Valley Dunes south of the proposed project site. By traversing through and along the edge of the stabilized sand dunes and sand hummocks, I was able to observe where these systems filtered out, or ended. As I navigated to the center of the southern boundary, all washes observed were checked for aeolian sand consistency, sand depth and MFTL or their sign. Sand consistency within the majority of the washes observed was not conducive to sustain MFTL. It is documented that MFTL are not usually found more than 45M from their aeolian sand communities. Once I left the stabilized sand dunes and sand hummocks, at 11S 699182E 3770078N (Waypoint 16), neither MFTL nor their sign were witnessed, while temperatures and times of day were conducive to MFTL field observation.

Phase 3: Generator tie-line Route Habitat Assessment

Phase 3 was a habitat assessment of the proposed generator tie-line. This began at the proposed interconnection substation at the Parker-Blythe 161 kV transmission line south of the project site. It continued by vehicle along the existing access road paralleling the proposed generator tie-line for the first five miles to the location where a new generator tie-line access road is required to connect with the project site. The remaining five miles were walked to the generator tie-line connecting point at the southern boundary of the heliostat site.

Waypoint 19: 11S 716519E 3762561N - View from the proposed interconnection substation. Habitat here is alluvial fan desert scrub with active sand dunes present far to the south.



Facing south toward dunes



Facing north generator T-line route

Waypoint 20: 11S 715456E 3763309N - One mile north of interconnection substation. Habitat here is consistent with alluvial fan desert scrub with light braiding.



Facing southeast



Facing southwest

Waypoint 21: 11S 714332E 3764371N - Two miles north of the interconnection substation, habitat is consistent with alluvial fan desert scrub.



Facing southeast



Facing southwest

Waypoint 22: 11S 713001E 3765733N - Three miles north of the interconnection substation, habitat is alluvial fan desert scrub with a few more alluvial braids; however, the sand depth and consistency within these braids is not conducive for MFTL occupancy.



Facing southeast



Facing southwest

Waypoint 23: 11S 711842E 3766318N - Four miles north of the interconnection substation, the habitat is slightly more braided in this area. I walked and observed the few washes that were present and found that the sand depth and consistency are not conducive for MFTL occupancy.



Facing southeast



Facing southwest

Waypoint 24: 11S 710331E 3767713N - Five miles north of the interconnection substation. This was the drop-off point near the new generator tie-line access road location. On foot, I followed and observed several large alluvial braids along the proposed corridor to the heliostat field site.



Facing southeast



Facing southwest

Waypoint 25: 11S 709985E 3767809N This was one of many washes observed that had some finer sand in isolated pockets; however, overall depth and consistency is not conducive for MFTL occupancy.



Facing west

Waypoint 26: 11S 709924E 3767810N - Observed a long-nosed leopard lizard within this wash at 11:47, with a ground temp of 33C. Neither MFTL nor their sign were present.



Facing west



Gambelia wislizenii

Waypoint 27: 11S 709824E 3767822N - This twenty-foot-wide wash was by far the largest wash observed in this region. I followed it for a few hundred yards

and noted that it does contain large areas of finer sand deposits that may be conducive to MFTL occupancy. No FMTL or their sign were present while times and temperatures were conducive; This area may need further review to conclude that MFTL are not present in this wash.



Facing southwest



Facing east

Waypoint 28: 11S 709394E 3767868N - Several smaller alluvial braids are present inbetween the larger washes throughout this area.



Facing west

Waypoint 29: 11S 709012E 376815N - Fragmented tortoise carapace located in narrow wash.



Gopherus agassizii remains

Waypoint 30: 11S 708696E 3768091N - This area consists of alluvial fan desert scrub.



Facing west

Waypoint 31: 11S 707307E 3768577N - Another wide wash was observed. The majority of the sand is compacted, with some areas that have finer, loose sand. No MFTL or their sign were observed.



Facing northeast



Facing southwest



Facing west

Waypoint 32: 11S 706792E 3768848N - This wash was approximately fifteen to twenty feet wide; however, after a short distance, it began to split and fade out. The sand is very compacted, with gravel present on the surface throughout.



Facing west



Facing northeast

Waypoint 33: 11S 705773E 3769204N - Desert iguana confirmed at 13:42, with a ground temp of 45.6C.

Waypoint 34: 11S 705689E 3769302N - This area consists of alluvial fan desert scrub with light alluvial braids.



Facing west



Facing north

Waypoint 35: 11S 704787E 3769837N - Desert horned lizard confirmed at 14:49, with a ground temp of 40C.



Waypoint 36: 11S 704161E 3770290N - Ending coordinates for Generator tie-line route at the heliostat field's southern boundary. This area consists of alluvial fan desert scrub with very little alluvial braiding present.



Facing south



Facing north

Results of the Phase 3 Generator Tie-Line Habitat Assessment

Starting from the proposed interconnection substation at 11S 716519E 3762561N (Waypoint 19), I documented and observed the first five miles heading north along the generator tie-line route by following the existing access road. The first

five miles of this route consist of alluvial fan desert scrub, with only faint alluvial braiding in small washes that cross the route. It is highly unlikely that MFTL is in close proximity to the tie-line route for the first five miles, as no suitable habitat was observed. Starting just to the south of the generator tie-line access road at 11S 710331E 3767713N (Waypoint 24) and continuing from these coordinates to 11S 706792E 3768848N (Waypoint 32), there are several large washes that have finer loose sand that may be conducive to the MFTL. If these washes connect to the stabilized dunes or other like communities to the south, it is possible for the MFTL to be present within them. Therefore, a further assessment of this area may be necessary. No MFTL or their sign were observed while times and temperatures were conducive.

Lizard species observed during both phases

<u>Scientific name</u>	<u>common name</u>
<i>Callisaurus draconoids</i>	Zebra-tail lizard
<i>Cnemidophorus tigris</i>	Western whiptail
<i>Dipsosaurus dorsalis</i>	Desert iguana
<i>Gambelia wislizenii</i>	Long-nosed leopard lizard
<i>Phrynosoma platyrhinos</i>	Desert horned lizard
<i>Uma scoparia</i>	Mojave fringe-toed lizard
<i>Uta stansburiana</i>	Side-blotched lizard

Acknowledgements

I would like to especially thank Dr. Cameron Barrows for recommending me for this assessment and reviewing it. I would also like to thank Dr. Barrows for sharing his years of knowledge, expertise and hard work within the genus *Uma*.

I would also like to thank the following professionals for their support and assistance in this assessment. J. Cleckler, D. Davy, M. Vaughn and field biologist Ashley Spenceley.

References

Barrows, C.W., 2006 Population dynamics of a threatened sand dune lizard. *Southwestern Naturalist*, 51(4):514-523.

Barrows, C.W., Allen, M.F., n.d. Patterns of Occurrence of Reptiles Across a Sand Dune Landscape. *Journal of Arid Environments*. In press (accepted for publication 9/4/2009).

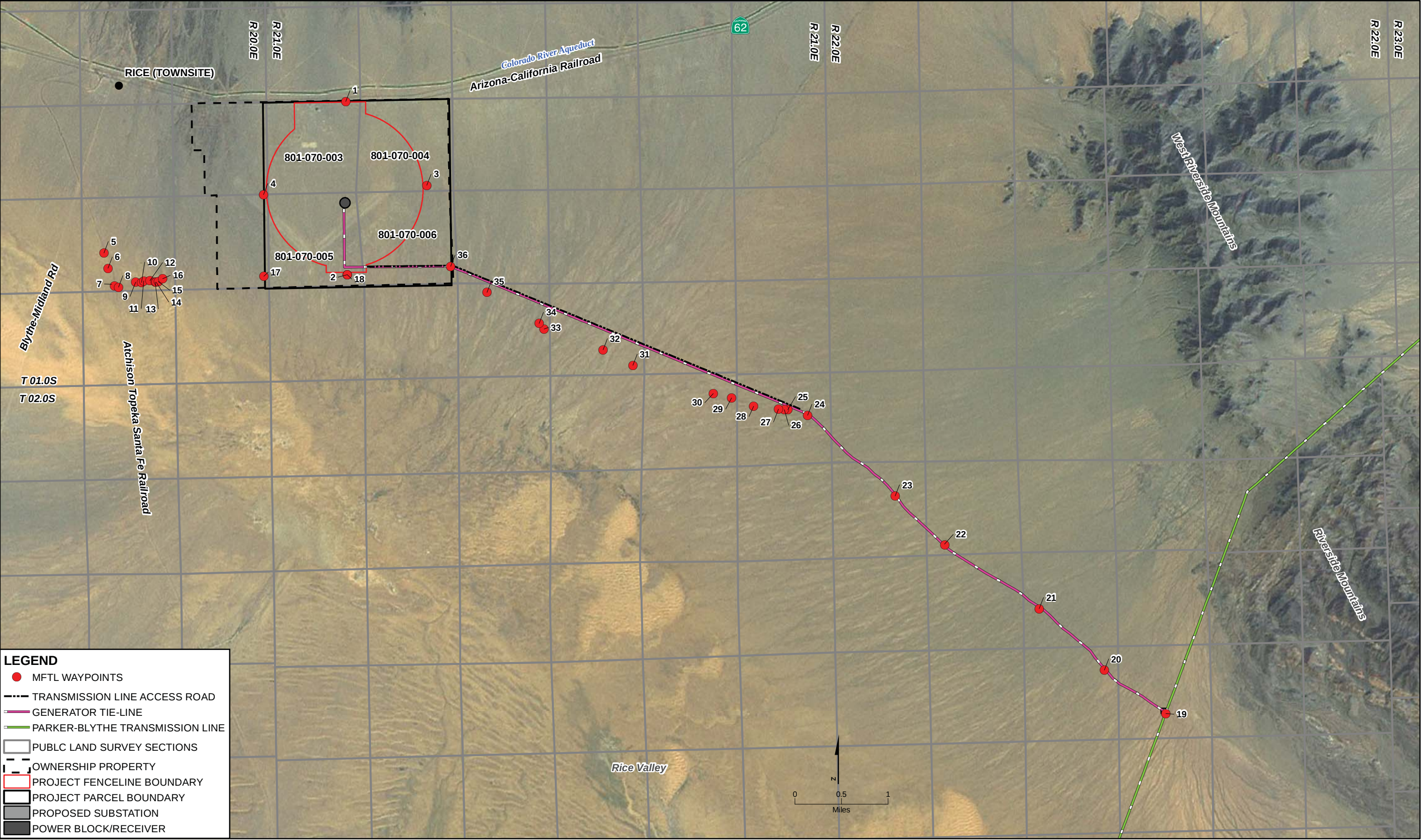


FIGURE 1
MFTL HABITAT ASSESSMENT WAYPOINTS
RICE SOLAR ENERGY PROJECT
RIVERSIDE COUNTY, CALIFORNIA

This map was compiled from various scale source data and maps and is intended for use as only an approximate representation of actual locations.



**BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT
COMMISSION OF THE STATE OF CALIFORNIA
1516 NINTH STREET, SACRAMENTO, CA 95814
1-800-822-6228 – WWW.ENERGY.CA.GOV**

**APPLICATION FOR CERTIFICATION
FOR THE *RICE SOLAR ENERGY POWER
PLANT PROJECT***

Docket No. 09-AFC-10

***PROOF OF SERVICE*
(Revised 3/4/2010)**

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DECLARATION OF SERVICE

I, Mary Finn, declare that on May 14, 2010, I served and filed copies of the attached, 09-AFC-10-RSEP - Mojave Fringe-toed Lizard Habitat Assessment. The original document, filed with the Docket Unit, is accompanied by a copy of the most recent Proof of Service list, located on the web page for this project at: [\[http://www.energy.ca.gov/sitingcases/ricesolar\]](http://www.energy.ca.gov/sitingcases/ricesolar).

The documents have been sent to both the other parties in this proceeding (as shown on the Proof of Service list) and to the Commission's Docket Unit, in the following manner:

(Check all that Apply)

FOR SERVICE TO ALL OTHER PARTIES:

x ____ sent electronically to all email addresses on the Proof of Service list;

____ by personal delivery

____ by delivering on this date for mailing with the United States Postal Service with first-class postage thereon fully prepaid, to the name and address of the person served, for the mailing that same day in the ordinary course of business; that the envelope was sealed and placed for collection and mailing on that date to those addresses **NOT** marked "email preferred."

AND

FOR FILING WITH THE ENERGY COMMISSION:

x ____ sending an original paper copy and one electronic copy, mailed and emailed respectively, to the address below (***preferred method***);

OR

____ depositing in the mail an original and 12 paper copies, as follows:

CALIFORNIA ENERGY COMMISSION

Attn: Docket No. 09-AFC-10

1516 Ninth Street, MS-4

Sacramento, CA 95814-5512

docket@energy.state.ca.us

I declare under penalty of perjury that the foregoing is true and correct.



Mary Finn